Application No. 10/749,756
Amendment dated November 6, 2006
Response to Office Action of September 06, 2006

Atty. Docket No. 42.P18169
Examiner WALTER, Craig
TC/A.U. 2188

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-21. Canceled.

22. (New)   A method comprising:

determining a threshold number;

determining a threshold period of time;

monitoring a number of previous consecutive reads of a hard drive (HD) satisfied by a non-volatile cache (NVC) of the HD;

monitoring a period of time of previous consecutive HD reads satisfied by the NVC of the HD;

changing a power state of the HD based at least in part on the threshold number, the threshold period of time, the number of previous consecutive reads of the HD satisfied by the NVC of the HD and the period of time of previous consecutive HD reads satisfied by the NVC of the HD; and

servicing HD data transactions with the NVC while the HD is spun down.

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23. (New)   The method of claim 22, further comprising:

determining a threshold quantity of memory space;

monitoring a quantity of the NVC that would be available to service HD writes when the

HD is spun down; and

wherein the changing the power state of the HD is further based at least in part on the

threshold quantity of memory space and the quantity of the NVC that would be available to

service HD writes when the HD is spun down.

24. (New)   The method of claim 23, wherein the changing the power state of the HD includes

spinning down the HD.

25. (New)   A method comprising:

determining a threshold quantity of memory space;

monitoring a quantity of a non-volatile cache (NVC) of a hard drive (HD) that would be

available to service HD writes when the HD is spun down;

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changing the power state of the HD based at least in part on the threshold quantity of

memory space and the quantity of the NVC of the HD that would be available to service HD

writes when the HD is spun down; and

servicing HD data transactions with the NVC while the HD is spun down.

26. (New)   The method of claim 25, further comprising:

determining a threshold number;

determining a threshold period of time;

monitoring a number of transactions serviced by the NVC or the HD within a previous

period of time equal to the threshold period of time; and

wherein the changing the power state of the HD is further based at least in part on

the threshold number and the number of transactions serviced by the NVC or the HD within the

previous period of time equal to the threshold period of time.

27. (New)   The method of claim 26, wherein the changing the power state includes one of

canceling a planned spinning down of the HD or spinning up the HD.

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28. (New)   A machine readable medium having stored thereon a set of instructions which

when executed cause a system to perform a method comprising:

determining a threshold number;

determining a threshold period of time;

monitoring a number of previous consecutive reads of a hard drive (HD) satisfied by a

non-volatile cache (NVC) of the HD;

monitoring a period of time of previous consecutive HD reads satisfied by the NVC of

the HD;

changing a power state of the HD based at least in part on the threshold number, the

threshold period of time, the number of previous consecutive reads of the HD satisfied by the

NVC of the HD and the period of time of previous consecutive HD reads satisfied by the NVC of

the HD; and

servicing HD data transactions with the NVC while the HD is spun down.

29. (New)   The machine readable medium of claim 28, the method further comprising:

determining a threshold quantity of memory space;

monitoring a quantity of the NVC that would be available to service HD writes when the

HD is spun down; and

wherein the changing the power state of the HD is further based at least in part on the

threshold quantity of memory space and the quantity of the NVC that would be available to

service HD writes when the HD is spun down.

30. (New)   The machine readable medium of claim 29, wherein the changing the power state

of the HD includes spinning down the HD.

31. (New)   A machine readable medium having stored thereon a set of instructions which

when executed cause a system to perform a method comprising:

determining a threshold quantity of memory space;

monitoring a quantity of a non-volatile cache (NVC) of a hard drive (HD) that would be

available to service HD writes when the HD is spun down;

changing the power state of the HD based at least in part on the threshold quantity of

memory space and the quantity of the NVC of the HD that would be available to service HD

writes when the HD is spun down; and

servicing HD data transactions with the NVC while the HD is spun down.

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32. (New)   The machine readable medium of claim of claim 31, the method further

comprising:

determining a threshold number;

determining a threshold period of time;

monitoring a number of transactions serviced by the NVC or the HD within a previous

period of time equal to the threshold period of time; and

wherein the changing the power state of the HD is further based at least in part on

the threshold number and the number of transactions serviced by the NVC or the HD within the

previous period of time equal to the threshold period of time.

33. (New)   The machine readable medium of claim 32, wherein the changing the power state

includes one of canceling a planned spinning down of the HD or spinning up the HD.

34. (New)   A system comprising:

a processor;

a non-volatile cache (NVC) coupled to the processor, the NVC to serve as a cache for a

hard drive (HD) of the system; and

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a machine readable medium having stored thereon a set of instructions which when

executed cause the system to perform a method including,

determining a threshold number;

determining a threshold period of time;

monitoring a number of previous consecutive reads of a hard drive (HD) satisfied

by a non-volatile cache (NVC) of the HD;

monitoring a period of time of previous consecutive HD reads satisfied by the

NVC of the HD;

changing a power state of the HD based at least in part on the threshold number,

the threshold period of time, the number of previous consecutive reads of the HD

satisfied by the NVC of the HD and the period of time of previous consecutive HD reads

satisfied by the NVC of the HD; and

servicing HD data transactions with the NVC while the HD is spun down.

35. (New)   The system of claim 34, the method further including,

determining a threshold quantity of memory space;

monitoring a quantity of the NVC that would be available to service HD writes when the

HD is spun down; and

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wherein the changing the power state of the HD is further based at least in part on the

threshold quantity of memory space and the quantity of the NVC that would be available to

service HD writes when the HD is spun down.

36. (New)   The system of claim 35, wherein the changing the power state of the HD includes

spinning down the HD.

37. (New)   The system of claim 34, the method further including

determining a second threshold number,

determining a second threshold period of time,

monitoring a number of transactions serviced by the NVC or the HD within a previous

period of time equal to the second threshold period of time, and

wherein the changing the power state of the HD is further based at least in part on the

second threshold number and the number of transactions serviced by the NVC or the HD within

the previous period of time equal to the second threshold period of time.

38. (New)   The system of claim 37, wherein the changing the power state includes one of

canceling a planned spinning down of the HD or spinning up the HD.